

# METHAMPHETAMINE

Methamphetamine is a powerful stimulant that affects the central nervous system. Methamphetamine stimulates the central nervous system, and the effects may last anywhere from eight to 24 hours. Methamphetamine can be smoked, snorted, orally ingested, and injected. It is accessible in many different forms and may be identified by color, which ranges from white to yellow to darker colors such as red and brown. Methamphetamine comes in a powder form that resembles granulated crystals and in a rock form known as "ice," which is the smokeable version of methamphetamine that came into use during the 1980s.

In addition to the physical effects, the production and processing of methamphetamines is also dangerous. The ignitable, corrosive, reactive, and toxic nature of chemicals used to produce the drugs can cause explosions, fires, toxic fumes, and damage to health and environment.

### ▼ Physical Effects

Methamphetamine is highly addictive and users can experience physical and psychological effects. Compared with cocaine, methamphetamine has a much longer duration of action and a larger percentage remains unchanged in the body. Smoking or ingesting methamphetamine causes the user to experience an intense rush or "flash" that lasts only a few minutes; snorting or oral ingestion produces euphoria. Methamphetamine is often used in a "binge and crash" pattern. Users try to maintain the high by binging on the drug.

#### *Short-Term Effects Include:*

- Increased attention and decreased fatigue
- Increased activity
- Decreased appetite
- Increased respiration
- Hyperthermia (body temperature elevated to dangerous, sometimes lethal levels)

#### *Long-Term Effects Include:*

- Dependence and addiction psychosis
- Paranoia and Hallucinations
- Mood disturbances
- Stroke
- Weight loss

Repeated use of the drug can lead to addiction, violent behavior, anxiety, confusion, insomnia, and psychotic behavior (including intense paranoia, and visual and auditory hallucination.) Chronic use can also result in inflammation of the heart lining and other cardiovascular problems.

Methamphetamine can be manufactured in clandestine laboratories (meth labs) using ingredients purchased in, or stolen from, local stores. Many of these materials, though, are highly volatile. Meth labs can be portable and so are easily dismantled, stored, or moved. This portability helps methamphetamine manufacturers avoid law enforcement authorities. Meth labs have been found in many different types of locations, including apartments, hotel rooms, rented storage spaces, and trucks. Due to its illegal manufacture, dosage is impossible to control and its chemical composition is unknown.

The manufacture of methamphetamine has a severe impact on the environment. The production of one pound of methamphetamine releases poisonous gas into the atmosphere and creates 5 to 7 pounds of toxic waste. Many laboratory operators dump the toxic waste down household drains, in fields and yards, or on rural roads.

Due to the creation of toxic waste at methamphetamine production sites, many first response personnel incur injury when dealing with the hazardous substances. The most common symptoms suffered by first responders when they raid meth labs are respiratory and eye irritations, headaches, dizziness, nausea, and shortness of breath.

## ▼ Drug Endangered Children

Children residing with parents involved in the manufacture of methamphetamine are exposed to the toxins used and created. Laboratory studies have demonstrated that by-products of methamphetamine manufacturing can be found on all surfaces of the residence, including the children's toys. Currently, very little is known about the long term health and developmental consequences of childhood exposure to meth manufacturing.

## ▼ Health Risks

Some of the many health-related consequences associated with methamphetamine use include increased respiration, tremors, convulsions, and such cardiovascular problems as chest pain, hypertension, and increased heart rate. Methamphetamine also is thought to damage brain cells that contain dopamine and serotonin, which transmit impulses to the brain. Methamphetamine use can reduce dopamine levels, producing symptoms similar to those of Parkinson's Disease. It also may damage nerve endings.

Hyperthermia and convulsions, as well as such cardiovascular side effects as chest pain and hypertension, caused by methamphetamine use may result in death. Increased heart rate and blood pressure, leading to damaged blood vessels in the brain, may produce strokes. Methamphetamine use affects the lungs, kidneys, and liver. Pulmonary edema and cardiac arrest may occur after prolonged use.

## ▼ Prenatal Complications

Methamphetamine use during pregnancy can cause major problems for babies, including asocial behavior, an inability to bond, tremors, and birth defects. Developmental problems may result because of reduced blood flow, and the drug may have a toxic effect on the fetal brain.

## ▼ Treatment

Methamphetamine users may experience long-term physical and psychological effects. Current treatment efforts include those used for other addictions: detoxification, residential treatment, and outpatient rehabilitation. Little information is available concerning methamphetamine-specific treatment programs. However, research on protocols used in other states is being reviewed.

## ▼ Information

For more information on methamphetamine, visit the websites of the National Institute on Drug Abuse ([www.drugabuse.gov](http://www.drugabuse.gov)), and the National Council for Alcohol and drug Information, NCADI ([www.health.org](http://www.health.org)).



For more information,  
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